

REMARKS

Claims 1-14 were pending in the application. Claims 1-14 are canceled. Claims 15-28 are added. Claims 15-28 are now pending. Claim 15 is the independent claim. Substantive examination is respectfully requested.

A substitute specification is submitted herewith, reflecting changes made to the written description during the international phase. No new matter is included in the substitute specification. A marked-up copy of the substitute specification is also submitted.

New claims are presented to eliminate multiple dependencies existing in the international application, and to clarify certain claim language. Please enter the Amendment prior to calculating the filing fee.

Respectfully submitted,

July 20, 2006

Date


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AP2026 10 30 JUL 2001

GYM WORK-OUT EQUIPMENT FOR THE TRAINING OF THE CHESTDELTOIDS, TRAPEZIUMS AND TRICEPS MUSCLESTECHNICAL FIELD

- 5 The object of the present invention is used for training in the field of body building of chest, deltoids, trapeziums and triceps muscles.

BACKGROUND ART

- 10 At present many different machines exist which allow us to train the chest, deltoids, trapeziums and triceps muscles, but none of these have a system which actually passes the equipment (dumb-bells etc) allowing the athlete to prepare himself for the exercise without any initial force.

The equipment that already exist on the market consist in a bench with a moveable back rest with fixed brackets to hold the weights.

- 15 Alternatively, there is equipment where the bench is used with levers, which in different ways are connected to the required weights for the exercise.

In no such machine on the market exists a system which actually passes the equipment to the athlete who is already seated on the bench.

- 20 In fact before starting an exercise, an athlete must (already seated) lift the weights and at the end of the exercise, still in the same position must lower them.

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One of the many pieces of equipment already on the market represented by the patent claim EP-1-029-562-A1 actually presents the disadvantages as mentioned above.

DISCLOSURE OF INVENTION

5 This new piece of equipment puts an end to difficulties and disadvantages which are present in the equipment that is presently on the market. It particularly reduces the efforts that an athlete puts into the sport both before and after the exercises, reducing time, effort and therefore the dangers of muscle strain.

10 In fact during the exercises with the help of the dumb-bells and bars done on a horizontal, vertical or inclined bench, the athlete must face the problem of getting and putting the weights back. As the weights get heavier, the physical and mental tiredness must also be considered, therefore there are many injuries connected to the lumbar and to 15 articulation of the arms and neck. Therefore it has been thought to add a help which will allow the athlete to use the weights in complete safety remembering that he can control the actions of the machine by using his feet.

The main characteristic of this piece of equipment is represented by the 20 fact that it consists in a bench that allows you to do exercises with the back rest of the bench in a horizontal position for stretching and pectoral exercises, upright bench for stretching above the head for deltoids and stretching with dumb-bells for triceps, - equipped with an assist mobile

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system of arms (servomechanisms) used to hold the weights (bars and dumb-bells) that with a mechanicals, hydraulics, electrics or pneumatics commands activables through rods, pedals, switchs or push buttons, allows the athlete to pick up and use the weights without changing position of the exercise, a way of limiting efforts which often at the end of an exercise when an athlete is tired can cause inflammation and personal injury, not to mention psychological stress due to muscle strain.

Another characteristic is that the devices that activate the commands positioned on a footrest can move the servomechanisms, both with a pneumatic system or with a mechanical system of levers and pulleys or any other electromechanical or electrohydraulic system.

Another characteristic is that the adaptable foot rest is of dimensions such to guarantee the support and the lodging of the devices that activate the commands and to assure the support of the feet during the development of the exercise.

Another characteristics are those of the side panels, places to protection of mechanism, which guarantee the safety of the athlete and that of passers-by, who could unintentionally come into contact with parts of machine in movement.

Other characteristic are those of the side panels, places to protection of mechanism, can be used as support for advertising material.

Another characteristic is the possibility to apply an electronic switchboard to the commands of servomechanisms, that are able to memorize the

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different positions chosen by the athlete according to the type of exercises to be done.

By pressing one of manuever devices, the athlete (user) commands the servomechanism to position themselves at chest height. Now the athlete can
5 grasp the weights and by activating the release device the arms return to their original position so as not to interfere during the exercise.

Let's now describe the main advantages of the invention.

1. Guarantees more comfort during work – outs in so much as the athlete doesn't have to perform unnatural movements such as positioning the equipment (weights) both before and after the exercise.
- 10 2. Improves the physical safety of the athlete, because it means that the weights must be moved once only at the beginning of a series of exercises, decreasing the chances of injuries.
- 15 3. Improves the physical safety of an athlete, in such a way as having to raise and lower the dumb-bells from the floor both at the beginning and at the end of an exercise, often in a horizontal positional position means that the muscles are stretched in an unnatural way often causing inflammation or swelling.
- 20 4. Allows you to enjoy the equipment. In fact with the proposed system, there is no need for a second person to help the athlete raise and lower the weights.

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5. Avoids blood pressure problems, often caused by excessive efforts, above all in the final part of the exercise.
6. Avoids wasting physical energy, which can be used for the following exercises.
7. Allows easy movement of the telescopic arms through foot commands which allow the athlete to stay in the same position for the whole exercise.

Another very important point to remember is the possibility to position any type of dumb-bell or weight onto the telescopic arms thanks to the universal brackets which hold the weights.

10 The advantages previously described can be seen clearly in the pictures included.

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BRIEF DESCRIPTION OF DRAWINGS

15 Figure 1, represents a general vision of invention characterized by the structure (A), the moveable bench (H), the footrest (B) where there are the devices of commands (C) and which hold the feet during the exercises, the safety panels (I) and all the other safety elements.

20 Figure 2, shows an enlargement of the footrest (B) on which the device of commands which move the mobile arms are positioned.

In figure 3, we can see the air tank position which is needed to activate the mobile arms.

In figures 1 & 4 the mobile arms are represented.

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The instant invention intends to overcome all difficulties and disadvantages which are present in the known equipment that is already on the market. ¶

In particular, the device of the invention relates to a safety system to be specifically used in conjunction with weight lifting which allows to reduce the efforts that an athlete makes both before and after the exercise, reducing time, efforts and therefore the dangers of muscle strain. ¶

Indeed, during the exercises with dumb-bells and bars made on a horizontal, vertical or inclined bench, the athlete must face the problem of getting and putting the weights back. ¶

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In figures 1, 4 & 5 the brackets which hold the weights (F) are represented.

In figure 4 the hooks (G) to hold the weights are represented.

This equipment can be modified without modifying the patent.

5 This invention has numerous advantages which other equipment already on the market don't have.

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With reference to Fig. 1, an embodiment of the present invention is shown. ¶

This embodiment uses an assist mobile system of arms (servomechanisms) used to hold the weights (bars and dumb-bells), i.e. the units (E) and (F), a bench (H) and a footrest (B) which holds the feet during the exercises and in which the command devices (C) are positioned. ¶ The units (E) and (F), after the weights are loaded by the user through pneumatic commands (in Fig. 3 we can see the air tank position (D) which supplies the pneumatic circuit) or mechanical, hydraulic, electric commands, which are actuated through pedals (C) or rods, switches, push buttons. ¶

The units (E) and (F) are positioned at the correct height for the exercise. ¶ Now the athlete can grasp the weights and, by activating the release device-through pedals (C), the arms return to their original position so as not to interfere during the exercise. ¶

The bench (H) consists in an adjustable bench that allows the user to perform exercises with the backrest of the bench in a horizontal po ... [38]

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Moreover the equipment presents side panels, positioned to protect the mechanism itself. ¶

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SUMMARY

The invention consists in gym work-out equipment for the training of the chest, deltoids, trapeziums and triceps muscles designated to be used both in specific areas such as gyms etc and in private areas.

- 5 The equipment consists in an adaptable bench (H) that allows the athlete to carry out the exercises with the back rest in a horizontal position for stretching and pectoral crosses, a slanted position for pectoral crosses and an up-right position for deltoids and stretching with dumb-bells for triceps - equipped with an assist mobile system of arms (servomechanisms) (E)
- 10 used to hold the weights (bars and dumb-bells) that with a mechanicals, hydraulics, electrics or pneumatics (C) commands activables through rods, pedals, switchs or push buttons, allows the athlete to arrange the weights on universal supports (F) without changing position of the exercise, a way of limiting efforts which often at the end of an exercise when an athlete is
- 15 tired can cause inflammation and personal injury, not to mention psychological stress due to muscle strain.

The invention is equipped of side panels for protection to guarantee the safety of passers-by who could unintentionally come into contact with the mechanical parts in movement.

- 20 This side panels can be used as support for advertising material.

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When the weights get heavier, the physical and mental tiredness must also be considered.

Therefore there are many injuries connected to the lumbar and to articulation of the arms and neck.

Therefore it has been thought to add a help which allows the athlete to use the weights in complete safety remembering that he can control the actions of the machine by using his feet.

With reference to Fig. 1, an embodiment of the present invention is shown.

This embodiment uses an assist mobile system of arms (servomechanisms) used to hold the weights (bars and dumb-bells), i.e. the units (E) and (F), a bench (H) and a footrest (B) which holds the feet during the exercises and in which the command devices (C) are positioned.

The units (E) and (F), after the weights are loaded by the user through pneumatic commands (in Fig. 3 we can see the air tank position (D) which supplies the pneumatic circuit) or mechanical, hydraulic, electric commands, which are actuated through pedals (C) or rods, switches, push buttons.

The units (E) and (F) are positioned at the correct height for the exercise.

Now the athlete can grasp the weights and, by activating the release device=through pedals (C), the arms return to their original position so as not to interfere during the exercise.

The bench (H) consists in an adjustable bench that allows the user to perform exercises with the backrest of the bench in a horizontal position for stretching and pectoral exercises, upright bench for stretching over the head for deltoids, and stretching with dumb-bells for triceps.

The device of the instant invention allows the athlete to pick up and use the weights without changing his position during the exercise, so that to reduce the efforts that, especially at the end of an exercise when the athlete is tired, may often cause inflammation and personal injury, not to mention psychological stress due to muscle strain.

The devices that activate the commands positioned on an adjustable footrest can move the servomechanisms, both through a pneumatic system or

through a mechanical system of levers and pulleys, or through any other electromechanical or electro-hydraulic system.

A further feature is that the adjustable footrest is of dimensions such to guarantee the support and the lodging of the devices that activate the

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commands, and such to assure the support of the feet during the exercise.

Moreover the equipment presents side panels, positioned to protect the mechanism itself.

This guarantees the safety of the athlete and passers-by, who could unintentionally come into contact with parts of the machine in movement.

This side panels can also be used as support for advertising material.

A further feature of the invention is the possibility to apply an electronic switchboard to the commands of servomechanisms, that are able to memorize the different positions chosen by the athlete according to the type of exercises to be performed.

The main advantages of the invention are as follows:

It guarantees more ergonomic comfort during the exercises, because it prevents the athlete from performing unnatural movements during the positioning of the equipment (weights) both before and after the exercise.

It improves the physical safety of the athlete, because it allows the weights to be moved only once at the beginning of a series of exercises, decreasing the chances of injuries.

It improves the physical safety of the athlete, because the raising and the lowering of the dumb-bells from and to the floor, both at the beginning and at the end of an exercise, in particular when the athlete is in a horizontal position, means that the muscles are stretched in an unnatural way, often causing inflammation or swelling.

It allows the athlete to enjoy the equipment. Indeed, with the proposed system, there is no need for a second person to help the athlete raise and lower the weights.

It avoids blood pressure problems, often caused by excessive efforts, especially at the end of the exercise.

It avoids wasting physical energy, which can be used for the following exercises.

It allows an easy movement of the telescopic arms through foot commands which allow the athlete to stay in the same position for the whole exercise. Another very important point to be remembered is the possibility to position any type of dumb-bell or weight onto the telescopic arms thanks to the universal brackets which hold the weights. The advantages previously described can be clearly seen in the annexed drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows an overall view of the invention characterized by the frame (A), the moveable bench (H), the footrest (B) where there are the command devices (C) and which holds the feet during the exercises, the safety panels (I) and all the other safety elements.

Figure 2 shows an enlargement of the footrest (B) on which the command devices (C), which move the mobile arms, are positioned.

In figure 3, we can see the air tank position (D) which supplies the mobile arms.

In figures 1 and 4 the mobile arms are represented.

In figures 1, 4 and 5 the brackets which hold the weights are represented.

In figure 4 the hooks (G) to hold the weights are represented.

This equipment can be modified without modifying the patent.

ABSTRACT

The present invention relates to a gym equipment for training of chest, deltoids, trapeziums and triceps muscles suitable to be used both in specific areas, such as gyms

etc, and in private areas. The equipment consists in an adjustable bench (H) that allows the athlete to perform the exercises with the backrest in a horizontal position for stretching and pectoral crosses, a slanted position for pectoral crosses and an up-right position for deltoids and stretching with dumb-bells for triceps, and which is equipped with an assist mobile system of arms (servomechanisms) (E) used to hold the weights (bars and dumb-bells) that, with a mechanical, hydraulic, electric or pneumatic commands (C) activated through rods, pedals, switches or push buttons, allows the athlete to arrange the weights on universal supports (F) without changing his position during the exercise, so that to reduce the efforts that, especially at the end of an exercise when the athlete is tired, may often cause inflammation and personal injury, not to mention psychological stress due to muscle strain. The equipment of the invention presents side panels (I) for the protection of the mechanism and also to guarantee the safety of the athlete and passers-by who could unintentionally come into contact with the mechanical parts in movement. This side panels can be also used as support for advertising material.

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